WHAT IS CLAIMED IS:

1. A method of processing an input image, comprising:

segmenting pixels of the input image based on projections of color values of the pixels onto two-dimensional thresholding planes; and

identifying candidate redeye pixel areas in the input image based on the segmented pixels of the input image.

2. The method of claim 1, wherein segmenting pixels comprises mapping color values of the pixels into a reference color space.

3. The method of claim 2, wherein the reference color space is based on the CIE-Lab color space.

4. The method of claim 1, wherein segmenting pixels comprises quantizing pixel color values in at least one color dimension of a color space.

5. The method of claim 4, wherein segmenting pixels further comprises projecting pixel color values onto two-dimensional thresholding planes with axes corresponding to non-quantized color dimensions of the color space.

6. The method of claim 1, wherein pixels are segmented based on at least one respective redeye color boundary in each two-dimensional thresholding plane.

7. The method of claim 6, wherein each redeye color boundary divides a respective two-dimensional thresholding plane into two classification regions.

8. The method of claim 7, wherein each redeye color boundary corresponds to a polyline defined by a set of control points in a two-dimensional thresholding plane.

9. The method of claim 6, wherein pixels are segmented in the thresholding planes based on first and second sets of different respective redeye color boundaries in each thresholding plane.

10. The method of claim 9, wherein a first set of candidate redeye pixel areas are identified from pixels segmented based on the first set of redeye color boundaries and second set of candidate redeye pixel areas are identified from pixels segmented based on the second set of redeye color boundaries.

11. The method of claim 10, wherein candidate redeye pixel areas in the first and second sets are merged into a set of candidate redeye pixel areas.

12. The method of claim 1, wherein candidate redeye pixel areas are identified based on pixel connectivity.

13. The method of claim 1, further comprising segmenting pixels of the input image by computing a redness map from color values of the input image pixels, binarizing the redness map, and identifying candidate redeye pixel areas based on the binarized redness map.

14. The method of claim 13, further comprising merging candidate redeye pixel areas identified based on the binarized redness map with candidate redeye pixel areas identified based on the projection of color values onto the two-dimensional thresholding planes.

15. The method of claim 13, wherein the redness map is binarized based on an adaptive threshold filter.

16. A system for processing an input image, comprising a redeye detection module operable to:

segment pixels of the input image based on projections of color values of the pixels onto two-dimensional thresholding planes; and

identify candidate redeye pixel areas in the input image based on the segmented pixels of the input image.

17. A method of processing an input image, comprising:

identifying candidate redeye pixel areas in the input image based on a first redeye color model;

identifying candidate redeye pixel areas in the input image based on a second redeye color model different from the first redeye color model; and

merging candidate redeye pixel areas identified based on the first and second redeye color models into a set of candidate redeye pixel areas.

18. The method of claim 17, wherein each of the first and second redeye color models respectively corresponds to a mapping of color values of pixels of the input image into a reference color space and a redeye color boundary for segmenting pixels of the input image in the reference color space.

19. The method of claim 18, wherein the first and second redeye color models correspond to mappings of color values of input image pixels into different respective spaces.

20. The method of claim 19, wherein the first redeye color model corresponds to a mapping of color values of input image pixels into a one-dimensional redness color space, and a redness threshold for segmenting input image pixels in the one-dimensional redness color space.

21. The method of claim 20, wherein identifying candidate redeye pixel areas comprises computing a redness map from color values of input image pixels, binarizing the redness map based on the redness threshold, and identifying candidate redeye pixel areas based on the binarized redness map.

22. The method of claim 20, wherein the second redeye color model corresponds to a mapping of color values of input image pixel into a multi-dimensional reference color space, and a redeye color boundary for segmenting input image pixels in the reference color space.

23. The method of claim 18, wherein the first and second redeye color models correspond to mappings of color values of input image pixels into a common reference color space, and different respective redeye color boundaries for segmenting input image pixels in the common reference color space.

24. The method of claim 23, wherein identifying candidate redeye pixel areas based on the first and second redeye color models comprises projecting color values of input image pixels onto two-dimensional thresholding planes in

the common reference color space, and segmenting input image pixels based on the different respective redeye color boundaries.

25. The method of claim 24, wherein segmenting pixels comprises mapping color values of the pixels into the common reference color space.

26. The method of claim 25, wherein the reference color space is based on the CIE-Lab color space.

27. A system of processing an input image, comprising a redeye detection module operable to:

identify candidate redeye pixel areas in the input image based on a first redeye color model;

identify candidate redeye pixel areas in the input image based on a second redeye color model different from the first redeye color model; and

merge candidate redeye pixel areas identified based on the first and second redeye color models into a set of candidate redeye pixel areas.

28. A method of processing an input image, comprising:

identifying a set of candidate redeye pixel areas in the input image;

projecting input image data into a feature space spanned by multiple features to generate feature vectors respectively representing the candidate redeye pixel areas in the feature space; and

filtering candidate redeye pixel areas from the set based on the generated feature vectors.

29. The method of claim 28, wherein at least some of the features are contrast features corresponding to respective measurements of local contrast.

30. The method of claim 29, wherein the contrast features are orientation independent with respect to the input image.

31. The method of claim 29, wherein a given contrast feature weight is computed based on a feature template and a feature plane.

32. The method of claim 31, wherein the feature template is a concentric template specifying a contrast measurement between a central basis region and a basis region surrounding the central basis region.

33. The method of claim 32, wherein the surrounding basis region is contiguous with the central basis region.

34. The method of claim 32, wherein the surrounding basis region is spaced apart from the central basis region.

35. The method of claim 31, wherein the feature template is a circular template specifying a contrast between a central basis region and a basis region adjacent to the central basis region.

36. The method of claim 35, wherein computing the given contrast feature weight comprises computing contrast values for multiple rotational orientations of the feature template.

37. The method of claim 36, wherein computing the given contrast feature weight further comprises assigning an extrema of the computed contrast values to the given contrast feature weight.

38. The method of claim 31, wherein the feature template is a circular template specifying a contrast measurement between a pair of basis regions respectively located at opposite ends of a first axis crossing a central region at a first angle and an adjacent pair of basis regions respectively located at opposite ends of a second axis crossing the central region at a second angle different from the first angle.

39. The method of claim 38, wherein the first and second axes are orthogonal.

40. The method of claim 31, wherein each feature plane is a scalar image computed from input image data.

41. The method of claim 40, wherein at least one feature plane corresponds to a mapping of input image data to a grayscale image.

42. The method of claim 40, wherein at least one feature plane corresponds to a mapping of input image data to an a-plane in a CIE-Lab color space representation of the input image data.

43. The method of claim 40, wherein at least one feature plane corresponds to a mapping of input image data to a redness image.

44. The method of claim 31, wherein each feature template is defined by a set of basis regions and a scale factor.

45. The method of claim 42 wherein the scale factor specifies a scale for the basis regions relative to a candidate redeye pixel area.

46. The method of claim 28, wherein at least one feature is based on pixels near a candidate redeye pixel area and classified as a skin tone pixel.

47. The method of claim 28, wherein at least one feature is based on an aspect ratio measurement of the candidate redeye pixel area.

48. The method of claim 28, wherein at least one feature is based on a ratio of pixels in a candidate redeye pixel area classified as redeye pixels.

49. The method of claim 28, wherein at least one feature weight is computed based on a dynamic range of pixel values in a central basis region.

50. The method of claim 28, wherein at least one feature weight is computed based on a standard deviation of pixel values in a central basis region.

51. A system of processing an input image, comprising a redeye detection module operable to:

identify a set of candidate redeye pixel areas in the input image;

project input image data into a feature space spanned by multiple features to generate feature vectors respectively representing the candidate redeye pixel areas in the feature space; and

filter candidate redeye pixel areas from the set based on the generated feature vectors.

52. A method of processing an input image, comprising:

detecting redeye pixel areas in the input image;

segmenting glowing redeye pixel areas from non-glowing redeye pixel areas; and

re-coloring regions of the segmented glowing redeye pixel areas.

53. The method of claim 52, wherein a given redeye pixel area is segmented as a glowing redeye pixel area based on relative numbers of redeye pixels and non-redeye pixels in the given redeye pixel area.

54. The method of claim 53, wherein a given redeye pixel area is segmented as a glowing redeye pixel area when the relative numbers of redeye pixels and non-redeye pixels in an oval glint correction region inscribed in the given redeye pixel area exceeds a predetermined threshold.

55. The method of claim 52, wherein a given redeye pixel area is segmented as a glowing redeye pixel area based on a measurement of average luminance of pixels in the given redeye pixel area.

56. The method of claim 52, wherein re-coloring comprises computing darkening factors for pixels of the glowing redeye pixel areas.

57. The method of claim 56, wherein the darkening factors are computed based on pixel distance from respective centers of redeye pixel areas.

58. The method of claim 56, wherein re-coloring comprises darkening pixels in the segmented glowing redeye pixel areas based on the computed darkening factors.

59. A system for processing an input image, comprising:

a redeye detection module operable to detect redeye pixel areas in the input image; and

a redeye correction module operable to segment glowing redeye pixel areas from non-glowing redeye pixel areas and to re-color regions of the segmented glowing redeye pixel areas.